

CLAIMS

1. Expandable-type anode for diaphragm chlor-alkali electrolysis cells comprising a conductive stem, two movable surfaces optionally provided with an electrocatalytic film for chlorine evolution connected to said conductive stem through connecting sheets and at least one forcing elastic element directed to adjust the gap between said movable surfaces and the diaphragm surface, said at least one forcing elastic element being provided with edges having an adjustable span, said span being adjustable by means of an extractable tool.
2. The anode of claim 1 wherein said adjustable span of said edges is externally adjustable.
3. The anode of one of claims 1 or 2 wherein said extractable tool is made of quenched and tempered low-alloy steel.
4. The anode of the previous claims wherein said edges of said at least one forcing elastic element are provided with fins engaging said connecting sheets.
5. The anode of the previous claims further comprising constraint elements suitable to hold said movable surfaces in a restrained position during the assemblage in said cells.
6. The anode of claim 5 wherein said constraint elements are extractable.
7. The anode of the previous claims wherein said at least one forcing elastic element comprises an elastic sheet with U-shaped profile provided with at least one adjusting mechanism.
8. The anode of claim 7 wherein said at least one forcing elastic element and said at least one adjusting mechanism are made of titanium or titanium alloys.
9. The anode of claim 7 or 8 wherein said at least one adjusting mechanism comprises a collar fastening the at least one forcing elastic element through openings made in said element and wherein said at least one adjusting mechanism can be operated by means of at least one gear.
10. The anode of claim 9 wherein said at least one gear is rotated by means of an extractable external adjusting tool comprising a shaft provided with a handle, said shaft being connectable to said at least one gear.
11. The anode of claim 10 wherein said shaft is made with a high torque resistance material.

12. The anode of anyone of claims 7 - 11 wherein said at least one forcing elastic element comprises at least two of said adjusting mechanisms respectively positioned in the upper and in the lower part of said element.
13. The anode of claims 7 or 8 wherein said at least one adjusting mechanism comprises at least one threaded shaft connectable to a crank driven by a tool comprising a lever.
14. The anode of claim 13 wherein said at least one adjusting mechanism comprises pair of threaded shafts.
15. The anode of claims 13 or 14 wherein said at least one forcing elastic element comprises at least two of said adjusting mechanisms respectively positioned in the upper and in the tower part of said element.
16. The anode of anyone of the previous claims characterised by being an operated anode of the prior art modified by means of adequate processing.
17. The anode of claim 16 wherein said adequate processing comprises the elimination of original constraint elements suitable to hold said movable surfaces in a restrained position.
18. Diaphragm chlor-alkali electrolysis cell comprising at least one anode of anyone of the previous claims.
19. Diaphragm chlor-alkali electrolysis process carried out with at least one cell of claim 18 wherein the gap between said movable surfaces of said at least one anode and the corresponding diaphragm surface is externally regulated through said span of said edges of said forcing elastic element before said at least one cell is put in operation.
20. The process of claim 19 wherein said gap is adjusted so as to bring the movable surfaces of said at least one anode in contact with the corresponding diaphragm surface while preventing the application of harmful pressures.
21. The process of claim 19 or 20 wherein said gap is adjusted to a finished predetermined extent.
22. Expandable-type anode for diaphragm chlor-alkali electrolysis cells substantially as herein described with reference to the attached drawings.